is not pressed, a fixed analog signal (voltage) V_{min} is provided as the output from the output terminal **40***c*. Next, even if the control button **221** is pressed, the resistance value of this resistor **40** does not change until the conducting member **50** contacts the resistor **40**, so the output from the resistor **40** remains unchanged at V_{min}. If the control button **221** is pushed further and the conducting member **50** comes into contact with the resistor **40**, the surface area of contact between the conducting member **50** and the resistor **40** increases in response to the pushing pressure on the control button **221**, and thus the resistance of the resistor **40** is reduced so the analog signal (voltage) output from the output terminal **40***c* of the resistor **40** increases. Furthermore, the analog signal (voltage) output form the output terminal **40***c* of the resistor **40** reaches the maximum V_{max} when the conducting member **50** is most deformed.

[**0074**] **FIG. 11** is a block diagram showing the main parts of the controller **200**.

[**0075**] An MPU **14** mounted on the internal board of the controller **200** is provided with a switch **18**, an A/D converter **16** and two vibration generation systems. The analog signal (voltage) output from the output terminal **40***c* of the resistor **40** is provided as the input to the A/D converter **16** and is converted to a digital signal.

[**0076**] The digital signal output from the A/D converter **16** is sent via an interface **17** provided upon the internal board of the controller **200** to the entertainment system **500** and the actions of game characters and the like are executed based on this digital signal.

[**0077**] Changes in the level of the analog signal output from the output terminal **40***c* of the resistor **40** correspond to changes in the pushing pressure received form the control button **221** (control element) as described above. Therefore, the digital signal outputted from the A/D converter **16** corresponds to the pushing pressure on the control button **221** (control element) from the user. If the actions of the game characters and the like are controlled based on the digital signal that has such a relationship with the pushing pressure from the user, it is possible to achieve smoother and more analog-like action than with control based on a binary digital signal based only on zeroes and ones.

[**0078**] The configuration is such that the switch **18** is controlled by a control signal sent from the entertainment system **500** based on a game program recorded on an optical disc **411**. When a game program recorded on optical disc is executed by the entertainment system **500**, depending on the content of the game program, a control signal is provided as output to specify whether the A/D converter **16** is to function as a means of providing output of a multi-valued analog signal, or as a means of providing a binary digital signal. Based on this control signal, the switch **18** is switched to select the function of the A/D converter **16**.

[**0079**] **FIGS. 12 and 13** show an embodiment of the configuration of the first control part of the controller.

[**0080**] As shown in **FIG. 12**, the first control part **210** includes a cruciform control unit **211**, a spacer **212** that positions this control unit **211**, and an elastic body **213** that elastically supports the control unit **211**. Moreover, as shown in **FIG. 12, a** conducting member **50** is attached to the rear surface of the elastic body **213**, and the configuration is such that resistors **40** are disposed at the positions facing the individual control keys **211***a* (control elements) of the control unit **211** via the elastic body **213**.

[**0081**] The overall structure of the first control part **210** has already been made public knowledge in the publication of unexamined Japanese patent application No. JP-A-H8-163672. The control unit **211**, however, uses a hemispherical projection **212***a* formed in the center of the spacer **212** as a fulcrum, and the individual control keys **211***a* (control elements) are assembled such that they can push on the resistor **40** side (see **FIG. 13**).

[**0082**] Conducting members **50** are adhered to the inside of the top surface of the elastic body **213** in positions corresponding to the individual control keys **211***a* (control elements) of the cruciform control unit **211**. In addition, the resistors **40** with a single structure are disposed such that they face the individual conducting members **50**.

[**0083**] When the individual control keys **211***a* which are control elements are pushed, the pushing pressure acts via the elastic body **213** on the pressure-sensitive devices consisting of a conducting member **50** and resistor **40**, so that its electrical resistance value varies depending on the magnitude of the pushing pressure.

[**0084**] **FIG. 14** is a diagram showing the circuit configuration of the resistor. As shown in this diagram, the resistor **40** is inserted in series in a power supply line **13**, where a voltage is applied between the electrodes **40***a* and **40***b*. The resistance of this resistor **40** is illustrated schematically, as shown in this diagram; the resistor **40** is divided into first and second variable resistors **43** and **44**. Among these, the portion of the first variable resistor **43** is in contact, respectively, with the conducting member **50** that moves together with the control key (up directional key) **211***a* for moving the character in the up direction, and with the conducting member **50** that moves together with the control key (left directional key) **211***a* for moving the character in the left direction, so its resistance value varies depending on the surface area in contact with these conducting members **50**.

[**0085**] In addition, the portion of the second variable resistor **44** is in contact, respectively, with the conducting member **50** that moves together with the control key (down directional key) **211***a* for moving the character in the down direction, and with the conducting member **50** that moves together with the control key (right directional Key) **211***a* for moving the character in the right direction, so its resistance value varies depending on the surface area in contact with these conducting members **50**.

[**0086**] Moreover, an output terminal **40***c* is provided intermediate between the variable resistors **43** and **44**, and an analog signal corresponding to the pushing pressure on the individual control keys **211***a* (control elements) is providing as output from this output terminal **40***c*.

[**0087**] The output from the output terminal **40***c* can be calculated from the ratio of the split in resistance value of the first and second variable resistors **43** and **44**. For example, if R1 is the resistance value of the first variable resistor **43**, R2 is the resistance value of the second variable resistor **44** and V_{cc} is the power supply voltage, then the output voltage V appearing at the output terminal **40***c* can be expressed by the following equation.

$$V=V_{cc}\times R2/(R1+R2)$$